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Storm ready

Tornado assessments help Norman Public Schools find best available refuges on site

NORMAN — As ice storms quickly give way to darkened skies, whirling wind and severe weather, local emergency management is working to keep students safe by arming Norman Public Schools with the best emergency plans possible.

Recently, Norman Emergency Management — in conjunction with OU Emergency Management, Moore Norman Technology Center Emergency Management and the National Weather Service — created teams of volunteers including architects and engineers to inspect Norman schools.

Teams issued reports regarding each school's existing emergency plan, how those plans stand up to severe weather and whether plans could be adjusted to be more effective.

Gary Armbruster, AIA, a principal and architect of MA+ Architecture, was one of the many volunteers who donated his time to make Norman schools prepared for severe weather.

The father of three boys, Armbruster said the May 20 tornado came about a mile away from his house, which is why he wanted to help with the assessments. Armbruster has 17 years of experience working with schools and is one of only two certified education facility planners in the state.

Armbruster and his team inspected Norman North High School and Norman High School as well as all four middle schools: Alcott, Irving, Longfellow and Whittier.

"We met with each principal, found their emergency plans — specifically for tornado assessments — and looked at what they did in the event of a tornado, how they sheltered children and how they dealt with the public," Armbruster said. "For example, what does a school do if a parent shows up to get their kid out of school? And what does the school do if the public shows up for shelter? Because historically, people think schools are a safe place to go, but they may not be."

Armbruster said his team's main objective was to determine where students and faculty should and shouldn't go during a storm. An example of such a place students, teachers and faculty should not

Gary Armbruster, AIA, a principal and architect of MA+ Architecture, checks the ceiling of a local school. Armbruster was a member of the volunteer group of professionals who inspected numerous Norman schools.



Photo Provided

go during a tornado is any place under a 40-foot span of roof or upper levels with a column at each end.

"There is nothing supporting the space within that 40 feet," he said. "Wind can uplift and drop the roof down, which is sort of what happened at Plaza Towers."

The evaluations recommend a "Best Available Refuge" at each school. Armbruster said these recommendations do not state that these "Best Available Refuges" will withstand an EF-5 tornado, but that it is the best location for safety within a school building.

"It's sort of like when you listen to the weather guy, and they tell you to go to the interior room of your house," Armbruster said. "We were looking for places like that, but we had to consider if these interior rooms have glass, if there was a 40-foot span, the number of kids needing refuge and more."

Other areas that should be avoided during a storm include gyms and cafeterias, as well as corridors that end in large, glass entries, which could create a tunnel effect that rushes wind, glass and debris through the corridor.

"You want as much room between you and the outside walls as possible," Armbruster said.

The biggest adjustment Armbruster and his team recommended is that Alcott Middle School, which is partially underground, should move students from the first floor underneath a band room to a room next door, which Armbruster said was an easy change.

The tornado assessments found both high schools have a lot of interior rooms without glass, due to the additions that have been made to both schools over the years, Armbruster said.

"Every school had small tweaks, but we didn't find any major issues," he said.

Moreover, Armbruster said that the 2009 bond issue, which enclosed classrooms at Irving and Whittier middle schools, created interior rooms and made them much safer.

"Every principal was helpful and ready to make adjustments. There were no egos. They had the kids' safety in mind," Armbruster said.

Each middle school assessment took about three to four hours to complete, while each high school took about six to eight hours to complete, after which each team wrote a report. Emergency management is compiling all of the reports and will give an executive summary to each school.

"I had never done this before, even though I've gone through training with Oklahoma Emergency Management and FEMA, but everyone came together so well. We were working for a common cause. It was really great."

Armbruster said the biggest reward for volunteering his time was the confidence it gave Norman Public Schools staff.

"There was a big sigh of relief in their eyes," Armbruster said. "Principals and teachers are trained as educators, and with all the mandates that come down from the federal and state government and all the things they have to do — including testing — storms are just another level of worry. To have a professional come in and say this is the best place to go or you're doing the right thing, I could tell they were relieved and that felt good."

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